

ABSTRACT

The present invention relates to the reduction of critical dimensions and the reduction of feature sizes in manufacturing integrated circuits. Specifically, the method controls photoresist flow rates to develop critical dimensions beyond the resolution limits of the photoresist material used, and the limits of lithographic tool sets. The resist material characteristics are modified by exposing the resist pattern to either electrons, photons, or ions. The exposure modifies the glass transition temperature, cross linking characteristics, decomposition temperature, or molecular weight of the resist material. The post-exposure resist is then easier to control during a subsequent reflow process to reduce the hole size or line size of the patterned resist.